

II

11-1 (5 )

( )	
1) $\begin{matrix} \text{HNO}_3 + \text{H}_2\text{O} & \text{NO}_3^- + \text{H}_3\text{O}^+ \\ \text{HClO}_4 + \text{H}_2\text{O} & \text{ClO}_4^- + \text{H}_3\text{O}^+ \end{matrix}$	2
2) $\begin{matrix} \text{HNO}_3 + \text{HClO}_4 & (\text{NO}_2)\text{ClO}_4 + \text{H}_2\text{O}, \\ & (\text{NO}_2)\text{ClO}_4^- \end{matrix}$	2
3)	1
	0
	<b>5</b>

11-2 (7 )

17,2

10 %.

( )	
1. $M(\text{C}_4\text{H}_8) = 17,2 \cdot 2 = 34,4$	1
2. $\begin{aligned} 2x + 56(1-x) &= 34,4 \\ x &= 0,4 \\ 1-x &= 0,6 \end{aligned}$	2
3. $\frac{n(\text{H}_2)}{n(\text{C}_4\text{H}_8)} = 2$	
1:1, $\begin{matrix} 0,4 & 0,4 \\ 0,4 & ( \end{matrix}$	1
4. $P \cdot V = n \cdot R \cdot T$	2

	10%	10%,	
5.	0,1	0,1	1
	= (0,1/0,4) 100% = 25%		
			0
			7

11-3 (10) NaOH 200 10,2% 1,111 / 5%

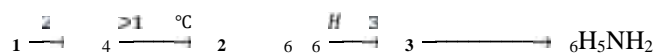
	, / 3
1	0.600-0.660
2	0.650-0.710
3	0.700-0.760
4	0.760-0.820
5	0.820-0.880
6	0.880-0.940
7	0.940-1.000
8	1.000-1.060
9	1.060-1.120
10	1.120-1.180
11	1.180-1.240
12	1.240-1.300
13	1.300-1.360
14	1.360-1.420
15	1.420-1.480
16	1.480-1.540
17	1.540-1.600
18	1.600-1.660
19	1.660-1.720
20	1.720-1.780
21	1.780-1.840
22	1.840-1.900
23	1.900-1.960
24	1.960-2.020

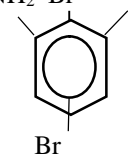
1.	$m_1 = V_1 \rho_1 = 200 \rho_1$ $m_2 = V_2 \rho_2 = 200 \rho_2$ $m_3 = (V_1 + V_2) \rho_3 = 400 \times 1,111 = 444,4$	3
2.	<p>NaOH</p> $m_1(N) = V_1 \rho_1 \omega_1 = 200 \rho_1 \times 0,05 = 10 \rho_1$ $m_2(N) = V_2 \rho_2 \omega_2 = 200 \rho_2 \times 0,15 = 30 \rho_2$ $m_3(N) = 444,4 \times 0,102 = 45,33$	3
3.	$\begin{cases} 200 \rho_1 + 200 \rho_2 = 444,4 \\ 10 \rho_1 + 30 \rho_2 = 45,33 \end{cases}$	2

$\rho_1 = 1,066 /$ ; $\rho_2 = 1,156 /$	
4. 10	9, - 2
	0
	<b>10</b>

11-4 (7 )

2,4,6-



( )	
1) $\text{Al}_4\text{C}_3 + 12\text{H}_2\text{O} \rightarrow 3\text{CH}_4 + 4\text{Al}(\text{OH})_3$ X <sub>1</sub> -	1
2) $2 \quad 4 \xrightarrow{>1 \text{ } ^\circ\text{C}} \text{C}_2\text{H}_2 + 3\text{H}_2$ X <sub>2</sub> - ( )	1
3) $3\text{C}_2\text{H}_2 \longrightarrow 6 \quad 6$	1
4) $6 \quad 6 + \text{HNO}_3 \rightarrow \text{C}_6\text{H}_5\text{NO}_2 + \text{H}_2\text{O}$ X <sub>3</sub> -	1
5) $\text{C}_6\text{H}_5\text{NO}_2 + 3(\text{NH}_4)_2\text{S} \rightarrow \text{C}_6\text{H}_5\text{NH}_2 + 6\text{NH}_3 + 3\text{S} + 2\text{H}_2\text{O}$	1
6) $\text{C}_6\text{H}_5\text{NH}_2 + 3\text{Br}_2 \xrightarrow{\text{H}_2\text{O}}$  + 3 HBr	1
7) $\text{C}_6\text{H}_5\text{NH}_2 + \text{HCl} \rightarrow [\text{C}_6\text{H}_5\text{NH}_3]\text{Cl}$ -	1
	0
	<b>7</b>

11-5 (II )

28-

158,73

( = 1,26 / <sup>3</sup> )

5,6

(

).

13-

400

)?

( )	
1) $m(\text{ - }) = V \cdot \rho = 158,73 \cdot 1,26 / = 200$ ; $m(\text{ - }) = m(\text{ - }) \cdot (KOH) = 200 \cdot 0,28 = 56$ ;	1

$n(\text{Cl}_2) = \frac{m}{M} = 56 : 56 / 56 = 1$	
<p>2)</p> $n(\text{SO}_2) = n(\text{Cl}_2) = \frac{V}{V_m} = \frac{5,6}{22,4} = 0,25$ $m(\text{SO}_2) = M(\text{SO}_2) \cdot n(\text{SO}_2) = 64 / 4 \cdot 0,25 = 16 ;$ $m(\text{Cl}_2) = M(\text{Cl}_2) \cdot n(\text{Cl}_2) = 71 / 4 \cdot 0,25 = 17,75 .$	1
<p>3)</p> $4 \text{KCl} + \text{SO}_2 + \text{Cl}_2 \rightarrow \text{K}_2\text{SO}_4 + 2 \text{KCl} + 2 \text{H}_2\text{O} \quad (1)$ $2 \text{KCl} + \text{SO}_2 \rightarrow \text{K}_2\text{SO}_3 + \text{H}_2\text{O};$ $2 \text{KCl} + \text{K}_2\text{SO}_3 + \text{Cl}_2 \rightarrow \text{K}_2\text{SO}_4 + 2 \text{KCl} + \text{H}_2\text{O}.$ <p>(1):</p> $n(\text{K}_2\text{SO}_4) = n(\text{SO}_2) = n(\text{Cl}_2) = 0,25 ;$ $n_1(\text{KCl}) = 2n(\text{SO}_2) = 2n(\text{Cl}_2) = 0,5 ;$ $n(\text{KCl}) = 4n(\text{SO}_2) = 4n(\text{Cl}_2) = 1$	2
<p>4)</p> $m(\text{KCl}) = m(\text{BaCl}_2) \cdot \left( \frac{M(\text{KCl})}{M(\text{BaCl}_2)} \right) = 400 \cdot 0,13 = 52 ;$ $n(\text{KCl}) = \frac{m}{M} = 52 / 208 / 100 = 0,25$	1
<p>5)</p> $\text{K}_2\text{SO}_4 + \text{BaCl}_2 = \text{BaSO}_4 + 2 \text{KCl} \quad (2)$ $n(\text{BaSO}_4) = n(\text{K}_2\text{SO}_4) = 0,25 ;$ $m(\text{BaSO}_4) = M(\text{BaSO}_4) \cdot n(\text{BaSO}_4) = 233 / 4 \cdot 0,25 = 58,25 ,$ $n_2(\text{KCl}) = 2n(\text{K}_2\text{SO}_4) = 2n(\text{Cl}_2) = 0,5$	2
<p>6)</p> $m(\text{KCl}) = m(\text{BaCl}_2) + m(\text{SO}_2) + m(\text{Cl}_2) + m(\text{K}_2\text{SO}_4) - m(\text{BaSO}_4)$ $m(\text{KCl}) = 200 + 16 + 17,75 + 400 - 58,25 = 575,5 .$ $n(\text{KCl}) = \frac{m(\text{KCl})}{M(\text{KCl})} = \frac{575,5}{74,5} = 7,725$ $(\text{Cl}) = \frac{m(\text{KCl})}{m(\text{BaCl}_2)} = 74,5 / 575,5 = 0,129 (12,9 \%)$	2
<p>7)</p> $2 \text{H}_2\text{O} + 2\text{e}^- = \text{H}_2 + 2\text{OH}^- ;$ $2 \text{I}^- - 2\text{e}^- = \text{I}_2 .$ $+ + \quad =$ $+ \text{I}_2 = \text{I} + \text{I} + 2$ $2, - , 1, 1.$	2
	0
	<b>11</b>